

High throughput data acquisition with InfiniBand on low power architectures

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LHCb experiment is preparing a major upgrade, during long shutdown 2 in 2018, of both the detector and the data acquisition system. A system composed of about 500 nodes and capable of transporting up to 50 Tbps of data will be required, this can only be achieved in a manageable way using a readout system based on commodity hardware and high-bandwidth data-centre switches. Several studies are ongoing in order to investigate different network and hardware technologies with the aim of reducing the purchase and maintenance costs of the system. In this presentation we will introduce InfiniBand and show preliminary tests with this network technology and x86 low power architectures. We will also describe how optimisations, like the usage of core-affinity, can affect the performances of such kind of systems.

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